

In re Patent Application of:

**BAGWELL ET AL**

Serial No. 09/932,640

Filed: AUGUST 17, 2001

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In the Claims:

1. (original) For use with a digital subscriber line (DSL) communication unit that is configured to provide access to plural remote digital communication devices via a telecommunication network, a method of managing operational characteristics of said remote digital communication devices comprising the steps of:

(a) establishing contemporaneous management communication sessions with said plural remote digital communication devices over robbed in-band digital communication channels of respective time-division-multiplexed (TDM) digital communication links employed by said DSL communication unit to conduct TDM digital communications with said plural remote digital communication devices; and

(b) transporting user commands over said robbed in-band digital communication channels to respectively addressed ones of said remote devices during said contemporaneous management communication sessions.

2. (original) The method according to claim 1, wherein step (b) further includes transporting responses to said user commands, by said addressed ones of said remote devices, over said robbed in-band digital communication channels to said DSL communication unit, during said contemporaneous management communication sessions.

3. (original) The method according to claim 1, wherein step (a) includes causing said DSL communication unit to establish said contemporaneous management communication sessions with said plural remote digital communication devices by way of a user management terminal coupled to said DSL communication unit.

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4. (currently amended) The method according to claim 13, wherein step (a) includes, in response to receipt of a message from said user management terminal containing the identification of a respective remote digital communication device for whom a management communication session is to be conducted, transporting a message over a respective robbed in-band digital communication channel from said DSL communication unit containing said identification of said respective remote communication device.

5. (original) The method according to claim 1, wherein step (a) includes causing said DSL communication unit to establish said contemporaneous management communication sessions with said plural remote digital communication devices by way of a user management terminal coupled to said DSL communication unit, and wherein step (b) further comprises, during said contemporaneous management communication sessions, transporting responses by said addressed ones of said remote devices to said user commands, over said robbed in-band digital communication channels to said DSL communication unit, and forwarding said responses to said user management terminal.

6. (original) For use with a digital telecommunication network providing digital subscriber line (DSL) service over respective time-division-multiplexed (TDM) digital communication links to a plurality of remote digital communication devices, a method remotely managing one or more operational parameters of said plurality of remote digital communication devices, comprising the steps of:

(a) interfacing said TDM digital communication links with an integrated access device (IAD) that is configured to provide access to said plurality of remote digital communication devices;

(b) via a user management terminal coupled to said IAD, establishing contemporaneous management communication sessions with said plural remote digital communication devices via robbed

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in-band digital communication channels of said TDM digital communication links; and

(c) transporting user commands over respective robbed in-band digital communication channels to respectively addressed ones of said remote devices during said contemporaneous management communication sessions.

7. (original) The method according to claim 6, wherein step (c) further includes transporting responses to said user commands, by said addressed ones of said remote devices, over respective robbed in-band digital communication channels to said DSL communication unit, during said contemporaneous management communication sessions.

8. (original) The method according to claim 6, wherein step (b) includes, in response to receipt of a message from said user management terminal containing the identification of a respective remote digital communication device for whom a management communication session is to be conducted, transporting a message over a robbed in-band digital communication channel of a respective TDM digital communication link from DSL communication unit containing said identification of said respective remote communication device.

9. (original) The method according to claim 6, wherein step (c) further comprises, during said contemporaneous management communication sessions, transporting responses by said addressed ones of said remote devices to said user commands, over robbed in-band digital communication channels to said DSL communication unit, and forwarding said responses to said user management terminal.

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10. (original) An arrangement for managing operational characteristics of plural remote digital communication devices via a telecommunication network coupled thereto comprising:

a digital subscriber line (DSL) communication unit that is configured to provide access to said plural remote digital communication devices via said telecommunication network by way of respective time-division-multiplexed (TDM) digital communication links; and

a communications controller for said DSL communication unit and being operative to cause said DSL communication unit to establish contemporaneous management communication sessions with said plural remote digital communication devices over a robbed in-band digital communication channel of respective ones of said TDM digital communication links.

11. (original) The arrangement according to claim 10, wherein said communications controller is operative to cause said DSL communication unit to transport user commands over robbed in-band digital communication channels of said respective links to respectively addressed ones of said remote devices during said contemporaneous management communication sessions.

12. (currently amended) The arrangement according to claim 10, wherein, in response to receipt of a message from a said user management terminal containing the identification of a respective remote digital communication device for whom a management communication session is to be conducted, said communications controller is operative to cause said DSL communication unit to transport a message over a respective robbed in-band digital communication channel containing said identification of said respective remote communication device.

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13. (currently amended) The arrangement according to claim 1012; wherein said communications controller is operative, during said contemporaneous management communication sessions, to cause said DSL communication unit to forward to said user management terminal responses to said user commands, as received over robbed in-band digital communication channels from said addressed ones of said remote devices.